

While at the National Museum in Washington, I was able to see the 22 unpublished Hawaiian *Mitra* species of W. H. Dall; some of these were found to be synonymous with the Pilsbry species and are so recorded here. Pending validation, the Dall manuscript names listed in the Hawaiian Shell News are *nomina nuda* and are presently unavailable.

1. *Mitra kamehameha* Pilsbry, 1920 = *Mitra ustulata* Reeve, 1844  
[Plate 33, figure 1; holotype of *M. kamehameha*]

This species was described from a single decollate subfossil specimen from the dredger dump at Honolulu Harbor. Pilsbry mentioned its similarity to *Mitra ustulata*, the chief difference being in the lengths of the apertures, which he described as "less than half the total length of *ustulata*, more than half in *kamehameha*". As may be seen in the accompanying photograph of the type specimen of *M. kamehameha*, the aperture and spire would be of about equal lengths in that specimen if the spire were complete. This photograph closely matches the Reeve type figure of *M. ustulata* (Conch. Icon., sp. 89), the Sowerby figure of that species (Thes. Conch., fig. 227), and the Tryon figure (Man. Conch., Pl. 35, fig. 51).

Specimens of *Mitra ustulata* from the Viti Isles, Aden and the Paumotu in the American Museum of Natural History match it also, except that the surface sculpturing of a few of these specimens is rougher and deeper than in the Pilsbry holotype of *M. kamehameha*; this might be explained by the fact that the subfossil shell is smooth through being worn.

A juvenile subfossil specimen of this species was collected by R. P. Gage, Jr. in 1960.

Three specimens in the Academy of Natural Sciences of Philadelphia were collected by Dr. C. M. Burgess in 25 to 50 feet of water, inside coral heads at Nanakuli, Oahu. *Mitra ustulata* is rare in Hawaii, and to the best of my knowledge is represented in collections there largely by dead specimens.

*Mitra ustulata* somewhat resembles *M. abbatis* Dillwyn, 1817 and *M. ignobilis* Reeve, 1844 which are also found uncommonly in Hawaii. They differ in that *M. ustulata* is proportionately longer, slimmer, and smoother, with *M. abbatis* bearing strong spiral sculpture, a spire considerably longer than the aperture, and a more obese body whorl. *Mitra ignobilis* is intermediate between the other two species in its sculpture; that is, *ignobilis* is more strongly sculptured than *ustulata* but less so than *abbatis*; the spire is shorter than the last whorl, and the last whorl is more ventricose. The colors and markings of these species are similar.

2. *Mitra thaanumiana* Pilsbry, 1920 = *Mitra coffea* Schubert and Wagner, 1829 (*Mitra fulva* Swainson, 1832)  
[Plate 33, figure 2; type specimen of *M. thaanumiana*]

There is little doubt that these two species are synonymous; Pilsbry's types and written description of *Mitra thaanumiana* are identical with Schubert and Wagner's type figure and description and Swainson's figure of *M. fulva*, as well as with examples of *M. coffea* from various parts of the Pacific.

*Mitra ambigua* Swainson, 1832 and *M. fulva* Swainson, 1832 have been considered synonymous by some authors, which could explain the error in identification frequently encountered.

### Explanation of Plate 33

Figure 1: *Mitra ustulata* REEVE 1844. Ventral and dorsal aspects of the holotype of *Mitra kamehameha* PILSBRY, 1920 (ANSP No. 46 753, height 59.4 mm.) Figure 2: *Mitra coffea* SCHUBERT & WAGNER, 1829. Holotype and paratype of *Mitra thaanumiana* PILSBRY, 1920 (ANSP No. 46 810, height of left-hand specimen 53.4 mm.) Figure 3: *Mitra ostergardi* PILSBRY, 1920. Ventral and dorsal aspects of the holotype (ANSP No. 46 770, height 43.5 mm.)

Figure 4: *Mitra tiarella* A. ADAMS, 1851. Holotype and paratype of *Mitra lugubris honoluluensis* PILSBRY, 1920 (ANSP No. 46 797, height of left-hand specimen 23.0 mm.) Figure 5: *Mitra ticaonica* REEVE, 1844. Holotype and paratype of *Mitra ticaonica vagans* PILSBRY, 1920 (ANSP No. 46 790, height of right-hand specimen 25.0 mm.)

(Figures 1 to 5 photographs by Perfecto Mary, courtesy of Stanford University)

Figure 6: *Mitra olivaeformis* SWAINSON, 1821. Dorsal aspects of typical variants (left to right): 1. Resembles the unfigured punctate holotype of *Mitra olivellaformis* PILSBRY, 1920. From Kauai. 2. A typical smooth specimen, from Oahu. 3. With produced and punctate spire, from Okinawa. 4. A slender specimen, from the Caroline Islands. 5. An obese specimen, from Kauai. 6. With mucronate spire, from Kauai.

(Photograph by Victor Duran, Scientific Photographic Laboratory, University of California; twice natural size.)

(Specimens 1 to 4 ex Cate Collection; 5 & 6 ex Thaanum Collection.)



Figure 1



Figure 2



Figure 3



Figure 4



Figure 5



Figure 6



tered in connection with these species. The original figures of both appear on the same page (Swainson, Zoological Illustrations, Part 2, Plate 30) and are obviously separable, *M. ambigua* having a wide whitish band a short distance below the sutures and stronger punctate spiral sculpture, besides being more attenuate anteriorly; *M. fulva* is a smoother shell with no color pattern. However, the name *coffea* was applied to this species three years earlier than Swainson's name and thus has priority.

The error in identification and its application to the present species is seen in a note in the species catalog of Mr. Ditlev Thaanum, listing this entry:

"*Mitra ambigua* Swainson. #1519. Keaukaha, Hilo, Hawaii. Th., Coll., '03. Under rocks. Rare. Id. by Dr. W. H. Dall as *Mitra ambigua* Swainson. This is type lot of *M. thaanumiana* Pilsbry."

*Mitra coffea* is chestnut brown inside and out, with five or six white folds on the columella and many white denticles on the outer lip. The spiral sculpturing is weakly punctate throughout; the lip is constricted above, effuse below; the canal is short and sharply recurved abaxially. Its range includes Madagascar, the Philippines, Marianas, Guam, Samoa, Tahiti and Polynesia. Considered rare in Hawaii, it has been collected in 10 to 15 feet of water off Waikiki, Oahu (Dranga and Thaanum), and under rocks at Keaukaha Ponds, Hawaii (Thaanum).

3. *Mitra ostergaardi* Pilsbry, 1920  
[Plate 33, figure 3; syntypes of *M. ostergaardi*; Plate 35, figure c; ex. Cate coll.]

Pilsbry erred in comparing this species with *Mitra ambigua*; he apparently accepted Tryon's synonymizing of that species with *M. fulva* Swainson (= *M. coffea* Schubert and Wagner, 1829). It differs, however, in its slimmer and more cylindrical form, its pure white aperture, and a smooth adapical edge to the labrum (whereas that of *M. coffea* is denticulate for its entire length). *Mitra ostergaardi* has fewer punctate spiral grooves than *M. coffea*, strongest on the upper whorls, shoulder and neck of the shell, with the periphery nearly smooth.

The types of *Mitra ostergaardi* are faded subfossil specimens from the dredger dump at Honolulu, and therefore differ to a certain extent from live-collected specimens. Freshly collected shells are a deep chocolate brown with a faint indication of a paler narrow subsu-

tural band. Some have tiny speckles of pure white on the lower half of the last whorl. The aperture is constricted above, effuse at the base, as in *M. coffea*; there are five columellar folds.

Living specimens have been collected in recent years in deep water at Oahu, Hawaii: in 30 to 40 feet of water under dead coral, Kailua Bay (C. S. Weaver), dredged in 100 feet on a sand and coral rubble substrate off Waianae (Pele Expedition), in 25 to 35 feet on top of the reef at Nanakuli (C. M. Burgess, ANSP specimens), in 45 feet in coral heads off Makua (C. M. Burgess, AMNH specimens). *Mitra ostergaardi* has also been reported in dredgings from the lagoon on the north side of Kwajalein Atoll in the Marshall Islands in 1943 (R. V. Dietrich).

The type of *Mitra ostergaardi* is at the Academy of Natural Sciences of Philadelphia.

*Mitra parahodia* Dall (MS.) is probably the same species. USNM specimens bearing this label were collected at Sand Island, Midway, by Bartsch in 1907.

4. *Mitra lugubris honoluluensis* Pilsbry, 1920  
= *Mitra tiarella* A. Adams, 1851  
[Plate 33, figure 4; type specimens of *M. l. honoluluensis*]

This subspecies was erroneously assigned by Pilsbry to *Mitra lugubris* Swainson, 1822. It is more closely related to *M. coronata* Lamarck, 1811 (non Helbling, 1779), a species similar to *M. lugubris* in some ways and frequently confused with it.

*Mitra tiarella* A. Adams, 1851 was first figured by Sowerby (1874); it differs from *M. coronata* in that its crenulations are lightly tipped with white instead of occupying a wide, solid-white subsutural zone, and *M. tiarella* bears also a narrow pale band below the crenulations which does not appear in *M. coronata*.

In Hawaii *Mitra tiarella* has been collected off Maili, Oahu (Thaanum), in 20 to 30 fathoms off Waikiki, Oahu (Thaanum), under dead coral in 30 to 40 feet (C. S. Weaver), dredged in 100 feet in coral rubble and sand off Waianae, Oahu (Pele Expedition), and many subfossil specimens are known from the dredger dump in Honolulu. The species is also known from the Sulu Sea (F. Dayrit), Japan (Thaanum), and the Ryukyu Islands (Thaanum, A. Scott). With so much confusion regarding the identification of specimens labelled *Mitra coronata* and *Mitra lugu-*

bris, due possibly to errors in Sowerby (1874) and Tryon (1882) (see page 132), I prefer not to list further locality records beyond those specimens which I have personally seen and regard as unquestionably M. tiarella.

Mitra assimilis Pease, 1867 is very similar, but Pease in his description says "there is not the slightest evidence of crenation at the sutures" and his holotype will have to be studied before a decision may be made as to whether it is conspecific with M. tiarella.

Mitra crassula Dall (MS.) is the same species (USNM No. 339'899).

5. Mitra ticaonica vagans Pilsbry, 1920 = Mitra ticaonica Reeve, 1844  
[Plate 33, figure 5; type specimens of M. t. vagans]

Pilsbry's basis for separating his subspecies from the typical Philippine Mitra ticaonica was that the Hawaiian specimens were smoother on the last whorl and less deeply grooved on the spire. After examining many museum specimens from various other points in the Pacific from Samoa to Tawi-Tawi (including the type locality, the island of Ticao), I believe the two geographical forms are not separable morphologically. The subspecies was described from two worn subfossil shells which could be expected to exhibit less sculpturing than live-collected specimens; any other discernible differences appear to be merely normal variations within the species. Some specimens are shorter and more obese than others and a few show more pronounced sculpturing, but these differences appear throughout the range of the species with no more emphasis on one locality than another.

Live-collected specimens taken by Thaanum on the reefs at Kewalo, Oahu are chocolate brown and have fine spiral striae throughout, these becoming somewhat more coarse at the neck of the shell. The aperture is also dark brown, with four white columellar folds and a strong, pale brown nodule in the throat. Specimens are frequently so encrusted that only the aperture may be seen.

Mitra pupiformis Dall (MS.) is the same species (USNM No. 338'028).

6. Mitra olivellaeformis Pilsbry, 1920 = Mitra olivaeformis Swainson, 1821  
[Plate 33, figure 6; ex. Cate coll.]

Since Pilsbry's species, admittedly very

similar to Mitra olivaeformis, is found living in the same populations with that species in Hawaii and elsewhere throughout the Pacific, it would appear that M. olivellaeformis is not deserving of specific rank. Its only difference lies in the presence of punctate spiral sculpture on the last whorl which is not usually present in the typical olivaeformis. This punctate character is frequently seen in other Mitrid species; in M. pontificalis Lamarck, 1811 and M. papalis Lamarck, 1811, for example, the upper whorls are entirely punctate while the last whorl is smooth. Therefore, young specimens would appear punctate while adults of the same species would not. Mitra olivaeformis seems to be one of the more variable of Mitrid species, and the punctate sculpture noted by Pilsbry merely one of its variations.

Other even more obvious differences within the species may be seen, with large series to study. Some specimens have a very strongly produced spire, while others are mucronate; in some the upper whorls are swollen and bulbous, while the usual form of an average specimen has sloping shoulders. The fact that all forms, smooth and punctate, produced and mucronate, swollen and gradate, slender and obese, are found in the same populations within the range of the species seems ample reason to consider them merely intrapopulation variants and to retain the original name Mitra olivaeformis for all of the variations. Even if Pilsbry's M. olivellaeformis were considered a separate taxon, it should be made a subspecies of M. olivaeformis, as its differences are too minor to justify full species rank for this form.

The photographs on Plate 33 (figure 6) illustrate some of the extremes mentioned above. The first shell resembles Pilsbry's unfigured type of Mitra olivellaeformis, while the second is a typical smooth specimen.

Mitra olivaeformis is recorded from localities throughout the entire central Pacific area, reported by Garrett (1880) as "very abundant and gregarious in sand inside the reefs". It has been collected in depths ranging from one or two feet to 30 fathoms (off Waikiki, Oahu; Thaanum).

7. Mitra langfordi Pilsbry, 1920 = Mitra peasei Dohrn, 1860  
[Plate 34, figure 1; syntypes of M. langfordi]

Pilsbry compared this species with Mitra granatina Lamarck, with M. gracilis Reeve, M.

filosa Born, M. bernardiana Philippi, and M. circula Kiener, but unfortunately overlooked Dohrn's M. peasei, which is identical with Pilsbry's type specimens of M. langfordi.

Mitra peasei is a white shell with a buff periostracum. Its aperture is china-white, with a pink tinge in young specimens. It is encircled with slender, rather beaded brown spiral cords, the brown color on these sometimes interrupted. There is fine cancellate sculpture in the interstices, caused by the intersection of a fine median spiral cord with equally fine axial impressed lines. The surface of the shell frequently shows irregular brown clouding, especially in young specimens. The protoconch is rosy-pink, conical-multispiral, deviated, homeostrophic, and unlike many Mitrid species, the protoconch persists in most specimens into adulthood.

Two notations in Mr. Thaanum's catalog on the page devoted to Mitra peasei are of interest here; the first refers to a set of shells collected in Maui:

"No. 1710, e. Id. by Dr. W. H. Dall, 1920, as Mitra peasei Dohrn."

The second note reads as follows:

"No. 1710. Honolulu, Oahu, harbor entrance in 6-10 fathoms of water. D. B. L., Coll., 1915. This is type lot of Pilsbry's Mitra langfordi."

With patronymic names being applied to new species so freely today in honor of persons who have made no real contribution to malacology, it is regrettable that the name of D. B. Langford should be lost in this case through an oversight. His carefully documented collections throughout the Pacific area over a period of some 50 years contributed greatly to the science.

The type locality of Mitra peasei is Australia.

#### 8. Mitra emersoni Pilsbry, 1920

[Plate 34, figure 2; type specimens of M. emersoni; Plate 35, figure d; ex. Cate coll.]

This species, as Pilsbry stated, is "closely related to Mitra crenifer (sic) Lamarck" (= M. clathrus Gmelin, 1790). His basis for separating the Hawaiian form is that it is "smaller, the vertical impressed lines about twice as far apart". The relative size is a poor criterion for establishing a new species; however, it may

be readily seen with a much larger series than Pilsbry had available that there is an appreciable difference in its proportions from those of the typical M. clathrus from Japan and the Philippines. Mitra emersoni is a slimmer species with a more produced spire, averaging nearly two millimeters narrower at the periphery than M. clathrus specimens of comparable length.

Additional differences include the further-apart vertical impressed lines noted by Pilsbry, a fainter and less distinct though very similar color pattern, and the prominence and beaded appearance of the raised spiral bands. In Mitra clathrus the surface is uniformly cancellate; in M. emersoni the interstices between the spiral bands exhibit additional, finer ornamentation.

The color of Mitra emersoni is white under a buff periostracum; nucleus and base are pink, with a pink blush extending onto the columella in fresh specimens. The interior of the aperture is white, the pattern and intermittent sections of the spiral threads chestnut brown.

Mitra emersoni is a deep-water species, recorded by Thaanum in from 25 to 75 feet off Lanipoko Camp and Mala Bay, West Maui; off Waikiki, Oahu in 20 to 30 fathoms; in Waialua Bay, Oahu in 12 to 15 fathoms; at the entrance to Pearl Harbor in 6 to 10 fathoms (type lot); and in 150 feet in sand off the entrance to Pearl Harbor during the Pele Expedition. Further records in the U. S. National Museum indicate its occurrence at Koloa, Kauai; at Pearl and Hermes Reef; and at Sand Island, Midway.

The type specimens of Mitra emersoni are at the Academy of Natural Sciences of Philadelphia.

#### 9. Mitra waikikiensis Pilsbry, 1920

[Plate 34, figure 3; type specimens of M. waikikiensis; Plate 35, figure a; ex. Cate coll.]

Mitra waikikiensis is a distinctive species, easily separable from any other Miters in the Hawaiian fauna. It is characterized by its nodulose sculpture throughout, and ornamented with two brown bands from which the glossy white nodules protrude. In specimens still retaining the periostracum, the nodules are very dark blackish-brown, as is the protoconch; the remainder of the periostracum is a cinnamon-brown color. The nodules are arranged in rows

in a very precise manner, suggesting the nodulose sculpture seen on the parietal wall of *Distorsio anus* (Linnaeus, 1758).

Pilsbry's species was described from two specimens dredged by D. B. Langford off Waikiki in 35 to 50 fathoms. Both are small shells, the larger of the two measuring only 12.5 mm. In addition to the type specimens, I have seen nine of comparable size in the Thaenum Collection and approximately 35 live-taken and dead specimens which were dredged during the Pele Expedition. Except for eight very large shells dredged in 60 fathoms in Keehi Lagoon, Oahu, all of these were also approximately the same small size. The Keehi shells, one of which is illustrated on Plate 35 (fig. a), are twice as large as the type specimens, ranging from 23 mm. to 29 mm. in length.

With over 45 specimens at hand, it was possible to make certain observations about the species which were not noted by Pilsbry in his original description. In addition to the unusually large size of the eight examples noted above, other observations include a variability in the number of columellar folds; Pilsbry mentioned three folds, the lower one quite small. The majority of shells in the series studied possess four folds, but one is seen to have five and only four have three folds. The protoconch is conical, glossy-white except as noted in those specimens still retaining the epidermis, and consists of about  $2\frac{1}{2}$  to 3 whorls.

*Mitra waikikiensis* is apparently a deep-water species; the shallowest record among my notes is off Mala Bay, West Maui, dredged by Thaenum in 25 to 75 feet; otherwise, it is recorded only from depths of 100 to 360 feet on sand, or a sand and coral rubble substrate (Pele Expedition), and from 60 to 500 feet (Thaenum).

*Mitra waikikiensis* bears a striking resemblance to the type figure and description of *M. loricata* Reeve, 1844 (Conch. Icon., sp. 174) and to Sowerby's figure of the same species (Thes. Conch., Plate 10, fig. 148), but since I have not seen examples of typical *M. loricata* it seems best at this time not to conclude that the two species are synonymous.

The type specimens of *Mitra waikikiensis* are in the Academy of Natural Sciences of Philadelphia.

*Mitra colpophila* Dall (MS.) is the same species (USNM No. 337'991).

10. *Vexillum thaenumi* Pilsbry, 1920  
[Plate 34, figure 4; ex. Cate coll.; Plate 35, figure e; ex. Cate coll.]

One of the most beautiful of all the Mitrid species, *Vexillum thaenumi* is apparently known only from Hawaii, and of rare occurrence even there. It is a deep-water form, most of the known specimens having been dredged in from 25 to 300 feet of water. The type lot was dredged off Waikiki, Oahu, in 200 to 300 feet by D. B. Langford in 1916; *V. thaenumi* has also been collected in 4 to 12 fathoms off Mt. Lihau; in 28 to 43 fathoms in the Auau Channel; in Waialua Bay; off West Maui; at the entrance to Pearl Harbor, and in Keehi Lagoon.

The photographs of this species on Plate 34 do not illustrate the type specimens, which are somewhat encrusted and unattractive. The shells figured here were collected during the Pele Expedition in from 100 to 150 feet at the entrance to Pearl Harbor, Oahu, and are from the Cate Collection.

Pilsbry's original description of this species is as follows:

#### Explanation of Plate 34

Figure 1: *Mitra peasei* DOHRN, 1860. Ventral and dorsal aspects of syntypes of *Mitra langfordi* PILSBRY, 1920 (ANSP No. 46805, height of left-hand specimen 35.3 mm.) Figure 2: *Mitra emersoni* PILSBRY, 1920. Holotype and paratype (ANSP No. 46804, height of left-hand specimen 29.4 mm.) Figure 3: *Mitra waikikiensis* PILSBRY, 1920. Syntypes (ANSP No. 46788, height of left-hand specimen 12.5 mm.) Figure 4: *Vexillum thaenumi* PILSBRY, 1920. Ex Cate collection (height of left-hand specimen 23.3 mm.) Figure 5: *Vexillum xenium* PILSBRY, 1920. Type and paratype (ANSP No. 116983, height of left-hand specimen 18.0 mm.) Figure 6: *Vexillum micra* PILSBRY, 1920. Type figure of holotype and paratype (ANSP No. 116986, height of left-hand specimen 7.5 mm.) Figure 7: *Vexillum turben* (REEVE, 1844). Ventral and dorsal aspects of the holotype of *Vexillum (Idiochila) turben kanaka* PILSBRY, 1920 (ANSP No. 46763, height 23.0 mm.) Figure 8: *Vexillum turben* (REEVE, 1844). Typical specimen from Mauritius.

(Figures 1 to 3 and 5 to 8, photographs by Perfecto Mary, furnished through the courtesy of Stanford University)

(Figure 4, photograph by Victor Duran, Scientific Photographic Laboratory, University of California.)



Figure 1



Figure 2



Figure 3



Figure 4



Figure 5



Figure 6



Figure 7



Figure 8







"Vexillum thaanumi, n. sp.

"The shell is fusiform, rather slender, white, with a cinnamon brown band below the periphery. At the periphery there are narrow vinaceous or brownish spots between the ribs, surmounted by a continuous, cinnamon line. On the penult whorl this line is median.

"Sculpture of vertical ribs weakening towards the base, the intervals with short impressed lines in a spiral direction; on the last whorl there are 11 ribs and about 19 spirals, exclusive of those on the siphonal fasciole. On the penult whorl there are 10 or 11 impressions in an interval.

"The aperture is slightly pink tinted within, lirate in the throat. Five columellar plaits, the lower one very small.

"Length 25.3, diameter 8, aperture 12 mm; 10 whorls.

"Off Waikiki, Oahu, in 200-300 feet. D. B. Langford.

"Mitra interstriata Sowerby (Thes. Conch. fig. 392) resembles this species somewhat in color, but it is wider, contracted more above the more prominent siphonal fasciole, and has a wider aperture."

The largest specimen I have seen (in the U. S. National Museum Collection) measures 31.6 mm. in length; the smallest adult shell, in the same collection, is just under 8 mm. long.

The type specimens are in the Academy of Natural Sciences of Philadelphia.

11. Vexillum xenium Pilsbry, 1920  
[Plate 34, figure 5; type specimens of V. xenium; Plate 35, figure b; ex. Weaver coll.]

Vexillum xenium is rare in collections and is presently known only from Hawaii. A few live specimens were taken during the Pele Expedition, dredged on a sand and coral substrate at 17 fathoms at the entrance to Keehi Lagoon, Oahu.

Vexillum xenium is said to resemble V. approximata (Pease, 1860), but is a distinct species, according to Dr. Alison Kay of the University of Hawaii (personal communication) who has seen and photographed the unfigured Pease holotype.

The original description of Vexillum xenium follows:

"Vexillum xenium n. sp.

"The shell is fusiform, white with a chestnut band traversed by several paler spiral lines, below the periphery, two or three paler interrupted lines above it on the summits of the ribs only, and a few widely spaced blackish-brown spots below the suture, on the ends of some of the ribs. The first three whorls are also deep brown. Sculpture of smooth, longitudinal ribs, 22 on the last whorl, equal to their interstices, the latter marked with short impressions in spiral series, 6 on the penult whorl in each interval; base spirally grooved over ribs and intervals forming about 4 spiral series of tubercles. Two obliquely spiral cords are more prominent just above the siphonal fasciole. Aperture shorter than the spire, the throat with 9 thin beaded lirae. Columella with 5 thin plaits.

"Length 18, diameter 7.5, aperture 8.4 mm., 10 whorls.

"Off Waikiki, Oahu, 25-50 fathoms. D. B. Langford.

"Turricula approxima (sic) Pease (P. Z. S. 1860) is described as convexly angulated at the sutures and with 4 plaits; it seems therefore to be a different species."

The type specimens of Vexillum xenium are in the Academy of Natural Sciences of Philadelphia.

12. Vexillum micra Pilsbry, 1920  
[Plate 34, figure 6; type specimens of V. micra]

Vexillum micra is a tiny species, just over  $\frac{1}{4}$  inch long. It is rare in collections, possibly because of its small size and deep-water habitat.

This species is not represented on the color plate (Plate 35) which illustrates the other five valid Pilsbry species from Hawaii, due to its unavailability for photographing in color. However, the black-and-white photograph on Plate 34 (figure 6) which was furnished through the courtesy of Stanford University, is the type figure of Vexillum micra, as no previous illustration has been published.